



SECTION 1007

AGGREGATE FOR BASE

1007.1 Type 1 Aggregate. Type 1 aggregate for base shall be essentially limestone or dolomite. The aggregate shall not contain more than 15 percent deleterious rock and shale. Sand may be added only for the purpose of reducing the plasticity index of the fraction passing the No. 40 (425 μ m) sieve in the finished product. Any sand, silt and clay and any deleterious rock and shale shall be uniformly distributed throughout the material. The aggregates shall conform to the following gradation requirements:

| | Percent by Weight (Mass) |
|------------------------------------|--------------------------|
| Passing 1-inch (25.0 mm) sieve | 100 |
| Passing 1/2-inch (12.5 mm) sieve | 60-90 |
| Passing No. 4 (4.75 mm) sieve | 40-60 |
| Passing No. 40 (425 μ m) sieve | 15-35 |

The fraction passing the No. 40 (75 μ m) sieve shall have a plasticity index not to exceed six.

1007.2 Type 2 Aggregate.

1007.2.1 Type 2 aggregate for base shall consist of crushed stone, sand and gravel or chat, with or without soil binder as may be required to conform to the requirements of these specifications. If crushed stone is used, sand may be added only for the purpose of reducing the plasticity index of the fraction passing the No. 40 (425 μ m) sieve in the finished product. The aggregate shall not contain more than 15 percent deleterious rock and shale. Deleterious rock, shale, sand or binder if required, shall be uniformly distributed throughout the material. The aggregate, combined with binder if required, shall conform to one of the following gradation requirements:

| | Percent by Weight (Mass) | |
|------------------------------------|--------------------------|-------------|
| | Gradation A | Gradation B |
| Passing 1-inch (25.0 mm) sieve | 100 | |
| Passing 3/4-inch (19.0 mm) sieve | | 100 |
| Passing 1/2-inch (12.5 mm) sieve | 60-90 | |
| Passing No. 4 (4.75 mm) sieve | 40-60 | 55-85 |
| Passing No. 10 (2.00 mm) sieve | | 40-65 |
| Passing No. 40 (425 μ m) sieve | 15-35 | 20-45 |

The fraction passing the No. 200 (75 μ m) sieve shall, when sand and gravel aggregate is used, be less than 2/3 of the fraction passing the No. 40 (425 μ m) sieve. The fraction passing the No. 40 (425 μ m) sieve shall have plasticity indices as follows:

| | Minimum | Maximum |
|-----------------------|---------|---------|
| Crushed Stone or Chat | 0 | 6 |
| Sand and Gravel | 2 | 6 |

1007.2.2 Binder shall consist of soil or similar fine material with such cohesive properties as to impart the desired plasticity to the finished base course. The binder shall be obtained from a source approved by the engineer.

1007.3 Type 3 Aggregate.

1007.3.1 Type 3 aggregate for base shall consist of crushed stone, limestone screenings, sand and gravel, sand, chat or sandstone or combinations of these materials, with or without soil binder as may be required. The aggregate shall contain not more than 15 percent deleterious rock and shale. The material shall conform to the following gradation requirements and in addition shall be so graded that the aggregate will readily compact to the specified density and withstand construction traffic without distortion and displacement.

| | Percent by Weight (Mass) |
|------------------------------------|---------------------------------|
| Passing 1 1/2-inch (37.5 mm) sieve | 100 |
| Passing No. 40 (425 µm) sieve | 15-50 |
| Passing No. 200 (75 µm) sieve | 0-35 |

The fraction passing the No. 40 (425 µm) sieve for Type 3 aggregate shall have a plasticity index not to exceed eight. If chat is used, the chat shall meet the requirements of this section and in addition shall have a minimum of 20 percent passing the No. 40 (425 µm) sieve. If soft sandstone, sand or sand-gravel mixtures are used, they shall meet the requirements of this section and in addition the fraction passing the No. 40 (425 µm) sieve shall have a plasticity index not less than two nor greater than eight.

1007.3.2 Binder shall consist of soil or similar fine material with such cohesive properties as to impart the desired plasticity to the finished product. The binder shall be obtained from a source approved by the engineer.

1007.4 Type 4 Aggregate.

1007.4.1 Type 4 aggregate for base shall consist of a uniform mixture of washed sand and gravel, crushed stone or chat. Aggregates shall consist of sound durable particles. When tested in accordance with AASHTO T 96, the percentage of wear shall not exceed 55. The percentage of deleterious substances shall not exceed the following values and the sum of these percentages shall not exceed 8 percent.

| | Percent by Weight (Mass) |
|---------------------|---------------------------------|
| Deleterious Rock | 8.0 |
| Shale and Mud Balls | 4.0 |

The material shall at all times during loading, hauling and placing, contain sufficient moisture to prevent segregation and to aid in obtaining compaction.

1007.4.2 Washed sand and gravel mixtures shall meet the following gradation requirements:

| | Percent by Weight (Mass) |
|----------------------------------|---------------------------------|
| Passing 1-inch (25.0 mm) sieve | 100 |
| Passing 1/2-inch (12.5 mm) sieve | 55-90 |
| Passing No. 10 (2.00 mm) sieve | 25-50 |
| Passing No. 40 (425 µm) sieve | 10-30 |
| Passing No. 100 (150 µm) sieve | 0-10 |
| Passing No. 200 (75 µm) sieve | 0-3 |

1007.4.3 Crushed stone shall consist of limestone or dolomite and shall meet the following gradation requirements:

| | Percent by Weight (Mass) |
|----------------------------------|---------------------------------|
| Passing 1-inch (25.0 mm) sieve | 100 |
| Passing 1/2-inch (12.5 mm) sieve | 55-90 |
| Passing No. 4 (4.75 mm) sieve | 8-40 |
| Passing No. 10 (2.00 mm) sieve | 0-15 |
| Passing No. 200 (75 µm) sieve | 0-4 |

A tolerance not to exceed 2 percent passing the No. 200 (75 µm) sieve will be permitted for samples taken at the point of delivery on the roadway.

1007.4.4 Chat shall meet the following gradation requirements:

| | Percent by Weight (Mass) |
|----------------------------------|---------------------------------|
| Passing 3/4-inch (19.0 mm) sieve | 100 |
| Passing 1/2-inch (12.5 mm) sieve | 90-100 |
| Passing No. 10 (2.00 mm) sieve | 20-50 |
| Passing No. 40 (425 µm) sieve | 5-30 |
| Passing No. 200 (75 µm) sieve | 0-5 |

1007.5 Type 5 Aggregate.

1007.5.1 Type 5 aggregate for base shall consist of crushed stone or sand and gravel. The aggregate shall not contain more than 15 percent deleterious rock and shale. If crushed stone is used, sand may be added only for the purpose of reducing the plasticity index of the fraction passing the No. 40 (425 µm) sieve in the finished product. The fraction passing the No. 40 (425 µm) sieve shall have a plasticity index not to exceed six. Any sand, silt and clay and any deleterious rock and shale shall be uniformly distributed throughout the material. When sand and gravel aggregate is used, the fraction passing the No. 200 (75 µm) sieve shall be less than 1/2 that of the fraction passing the No. 30 (600 µm) sieve.

1007.5.2 Type 5 aggregate shall conform to the following gradation requirements and in addition shall be so graded that the aggregate will readily compact to the specified density and withstand construction traffic without distortion and displacement.

| | Percent by Weight (Mass) |
|-------------------------------------------|-------------------------------------|
| Passing 1-inch (25.0 mm) sieve | 100 |
| Passing 1/2-inch (12.5 mm) sieve | 60-90 |
| Passing No. 4 (4.75 mm) sieve | 40-60 |
| Passing No. 30 (600 μm) sieve | 15-35 |
| Passing No. 200 (75 μm) sieve | 0-15 |